

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

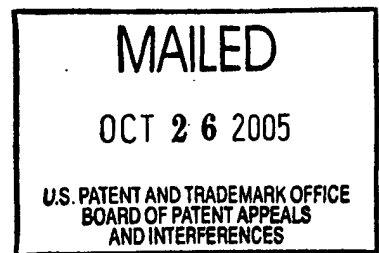
## UNITED STATES PATENT AND TRADEMARK OFFICE

### BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

**Ex parte** JIEBO LUO and ROBERT T. GRAY

Appeal No. 2005-2003  
Application No. 09/642,533

ON BRIEF



Before THOMAS, BARRY, and MACDONALD, **Administrative Patent Judges**.  
MACDONALD, **Administrative Patent Judge**.

#### DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 91-130. Claims 1-90 have been canceled.

#### Invention

Appellants' invention relates to a method and system of modifying an image made up of pixels by automatically identifying a main subject of the image and altering pixel values to emphasize the main subject. This is accomplished by, among other techniques, altering pixel values in the main subject or altering pixel values in the background, or both.

Appellants' specification at page 2, lines 7-12.

Claim 91 is representative of the claimed invention and is reproduced as follows:

91. A method for modifying an image having pixels, comprising the steps of:  
automatically identifying a main subject of the image,  
and  
automatically altering pixel values of said image to emphasize said main subject, said  
altering following said identifying.

#### **References**

The references relied on by the Examiner are as follows:

Luo et al.	6,504,951	January 7, 2003 (Filed November 29, 1999)
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#### **Rejections At Issue**

Claims 91-130 stand rejected under 35 U.S.C. § 102 as being anticipated by Luo.

Throughout our opinion, we make references to the Appellants' briefs, and to the Examiner's Answer for the respective details thereof.<sup>1</sup>

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<sup>1</sup>Appellants filed an appeal brief on August 27, 2004. Appellants filed a reply brief on March 7, 2005. The Examiner mailed an Examiner's Answer on January 3, 2005.

### OPINION

With full consideration being given to the subject matter on appeal, the Examiner's rejections and the arguments of the Appellants and the Examiner, for the reasons stated *infra*, we affirm the Examiner's rejection of claims 91-130 under 35 U.S.C. § 102.

We also use our authority under 37 CFR § 41.50(b) to enter a new grounds of rejection of claims 91-105 and 121-130. The basis for this is set forth in detail below.

Only those arguments actually made by Appellants have been considered in this decision. Arguments that Appellants could have made but chose not to make in the brief have not been considered. We deem such arguments to be waived by Appellants [see 37 CFR § 41.37(c)(1)(vii) effective September 13, 2004 replacing 37 CFR § 1.192(a)].

Appellants have indicated that for purposes of this appeal the claims stand or fall together. See page 2 of the brief. We will, thereby, consider Appellants' claims as standing or falling together, and we will treat claim 91 as representative of all the claims.

**I. Whether the Rejection of Claims 91-130 Under  
35 U.S.C. § 102 is proper?**

It is our view, after consideration of the record before us, that the disclosure of Luo does fully meet the invention as recited in claims 91-130. Accordingly, we affirm.

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. **See In re King**, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and **Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.**, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

With respect to independent claim 91, Appellants present two arguments at page 3 of the brief, and reiterates these arguments at page 1 of the reply brief. Firstly, Appellants argue, "Luo et al. does not disclose automatically identifying a main subject of the image," and secondly, Appellants argue, "Luo et al. does not disclose automatically altering pixel values of said image to emphasize said main subject, said altering following said identifying." Both of Appellants' arguments rely on constrained readings of the claim steps that are not warranted based on the actual claim language. Therefore, we find the arguments unpersuasive.

As to the first argument, we find that Luo does not teach "excluding the sky region in detecting the main subjects in the image." Rather, Luo teaches, "sky regions can usually be excluded because they are likely to be part of the background." (See Luo at col. 1, lines 49-50.) We find that an appropriate reading of this teaching is that there exist a small percentage of images where the sky is the main subject.

Additionally, Appellants' own specification contains plural definitions of the term "main subject" of which at least one definition reasonably allows for sky regions being a main subject of an image. At page 13, line 23, through page 4, line 4, of the specification, Appellants present two definitions of the term "main subject." The first definition indicates that the term is highly subjective as it is "in the opinion of each observer." That is, any object in the image could be picked by an observer to be the "main subject" based on their own personal preferences. The second definition indicates a more objective term by making it a "binary decision ... [that] can be obtained by using an appropriate threshold on [a] belief map." We note that this second definition still does not eliminate the aspect that the object to be identified is subjective to the extent that the observer must first decide what they want to identify using the binary decision process. Appellants' third definition of the

term is found at pages 10-13 of the specification. Here Appellants set forth a very specific objective process for determining whether a region in an image is a "main subject" based on degree of centrality, borderiness, and chrominance space distribution.

We find that the "automatically identifying a main subject of the image" in claim 91 is met by Luo's teaching of color classification by item 201 and a threshold operation (72) to produce a binary map of belief values. (See Luo at col. 8. line 19, through col. 9, line 32.) This process of identifying a sky pixel versus a non-sky pixel is consistent with Appellants' definition of "main subject" as a binary decision obtained by using an appropriate threshold on a belief map. Appellants position that an observer is "excluded" from selecting sky as their main subject upon which to perform the binary decision process is simply not supported by the claim language nor by the evidence before this panel.

As to Appellants' second argument, we find Luo teaches, "automatically altering pixel values of said image to emphasize said main subject" and we find Luo teaches "said altering following said identifying." We address the second point first. Appellants argue that Luo's pixel elimination steps occur as part of finding the sky regions. (Brief at page 4) We agree.

However, Appellants then argue "[s]ince the process is intended to find sky regions, it by definition can not take place after the sky has been identified." We do not agree. Appellants' argument overlooks the fact that Luo teaches a multi-stage identification process. (See Luo at column 5, lines 2-3.) At the end of stage one, Luo has identified a sky pixel versus a non-sky pixel using a binary map (see item 73). This is a complete identification stage that meets the identifying step of claim 91. Nothing in the claim precludes the altering occurring as part of a second or third stage identification process where the first identification is further refined. (See Luo at column 10, lines 5 and 49.) Appellants claim language only requires "said altering following said identifying" not that said altering follow any and all identifying.

As to the first point of the second argument, Appellants argue that Luo's eliminating other regions does not emphasize the sky regions within the context of the present invention. We find this argument unpersuasive. Appellants' contention that the claim requires altering the main subject (sky region) to emphasize the main subject is not supported by the claim. The second step of claim 91 requires "altering pixel values of said image" with the result "to emphasize said main subject."

Consistent with the claim language, we find that the emphasizing

can be accomplished by altering the pixels of other regions to decrease their emphasis (and thus increase the relative emphasis of the main subject (sky)). Nothing in the claim language requires altering the pixels of the main subject to increase its emphasis.

Therefore, we will sustain the Examiner's rejection under 35 U.S.C. § 102.

**II. Rejection of Claims 91-105 and 121-130 Under  
37 CFR § 41.50(b).**

We make the following new grounds of rejection using our authority under 37 CFR § 41.50(b).

Claims 91-105 and 121-130 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the necessary structural connections. A claim which fails to interrelate essential elements of the invention as defined by applicant(s) in the specification may be rejected under 35 U.S.C. 112, second paragraph, for failure to point out and distinctly claim the invention. **See In re Venezia**, 530 F.2d 956, 957-58, 189 USPQ 149 (CCPA 1976); **In re Collier**, 397 F.2d 1003, 1105, 158 USPQ 266, 267 (CCPA 1968).



All of Appellants method claims share the same problem in that they are not limited to a machine implemented method. Normally no such limitation is required. However, in the situation before us, Appellants have specifically stated that the invention "provides the fundamental advantage of eliminating the need for manual intervention." See Appellants' specification at lines 1-2 of page 6. Appellants' method claims are not currently so limited.

We do not read the claim language "automatically" as requiring a machine. For example, the "automatically identifying" in line 3 of claim 91 does not require a machine as it also covers a manual operation performed in a rote or mechanical fashion by a human. We also note that the mere complexity of the steps in Appellants' method claims does not in itself require that a machine perform them.

### **Conclusion**

In view of the foregoing discussion, we have sustained the rejection under 35 U.S.C. § 102 of claims 91-130.

We have entered a new grounds of rejection against claims 91-105 and 121-130 under 37 CFR § 41.50(b).

As indicated **supra**, this decision contains a new grounds of rejection pursuant to 37 CFR § 41.50(b) (effective September 13, 2004).

37 CFR § 41.50(b) provides that, "[a] new grounds of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 CFR § 41.50(b) also provides that the Appellant, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings (37 CFR § 1.197 (b) (amended effective September 13, 2004)) as to the rejected claims:

- (1) Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner ...
- (2) Request that the proceeding be reheard under 37 CFR § 41.52 by the Board upon the same record ...

**AFFIRMED**  
37 CFR § 41.50 (b)

BOARD OF PATENT  
APPEALS  
AND  
INTERFERENCES

11

Appeal No. 2005-2003  
Application No. 09/642,533

Page 12

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